

California Solar Energy Policy



Kurt Johnson
Energy Division
California Public Utilities Commission
(kmj@cpuc.ca.gov, 415-703-5595)

11th National Renewable Energy Marketing Conference
December 6, 2006

Overview

- ❑ About the California Public Utilities Commission
- ❑ California Policy Context
 - California Global Warming Protection Act
 - California's Energy Action Plan
- ❑ California Solar Initiative



California Public Utilities Commission

□ Mission Statement

- Establish essential universal utility service and protect the public interest by regulation of the privately-owned utilities of California

□ Commissioners

- Five gubernatorial appointees, including President
- Six-year staggered terms

□ Staff

- Engineers, accountants, economists, lawyers, public policy analysts, investigators, administrative law judges
- Almost 1000 employees
- ***The CPUC is hiring! See Energy Division openings at <http://www.cpuc.ca.gov/static/jobs/jobfocus/degrees/egypolicy.htm>***



California Global Warming Protection Act

- ❑ AB 32 signed into law by Governor Schwarzenegger on September 27, 2006
- ❑ Requires reduction in greenhouse gas emissions to 1990 levels by 2020*
- ❑ Emissions covered
 - Carbon dioxide
 - Methane
 - Nitrous oxide
 - Hydrofluorocarbons
 - Perfluorocarbons
 - Sulfur hexafluoride
- ❑ Executive Order October 2006 emphasizes market mechanisms to trade with other regions

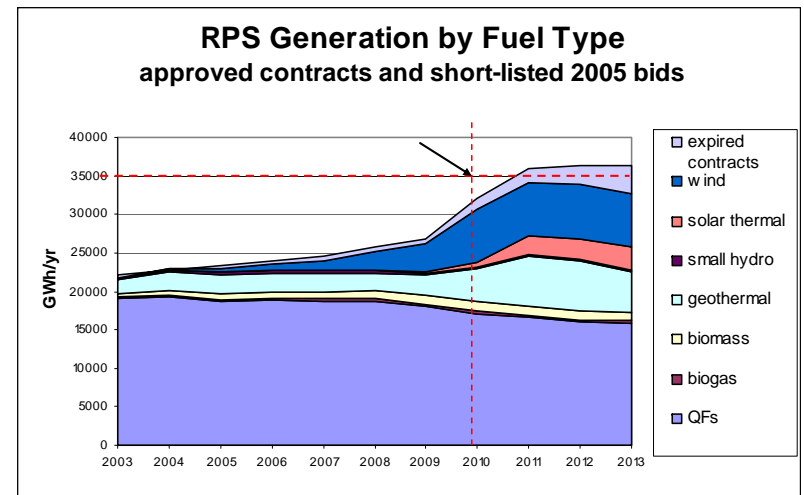


* Approximately 145 Million Tons Emission Reductions, 25% below business as usual

California's Energy Action Plan

Key Elements of Energy Action Plan II (October 2005)

- ❑ Loading order
 - Energy efficiency
 - Demand response and advanced metering
 - Renewable generation
 - 20% renewables by 2010
 - Cleanest available fossil resources



California Solar Initiative (CSI)

- ❑ Building Upon Success
 - CPUC Self Generation Incentive Program
 - CEC Emerging Renewables Program
- ❑ SB1 Signed August 21, 2006
 - 3000 MW of solar distributed generation
 - Self-sustaining solar industry by 2016



CSI Structure Starting in 2007

Program Authority	CPUC	California Energy Commission	Publicly Owned Utilities
Budget	\$2.167 billion	\$400 million	\$784 million
Pro-rata MW Solar	1940 MW	360 MW	700 MW
Scope	All in IOU areas except new homes	New homes, IOU areas	All in POU areas
Audience	Various	Builders, buyers	Various
Begins	January 2007	January 2007	January 2008



Overview of CSI Incentives Starting in 2007

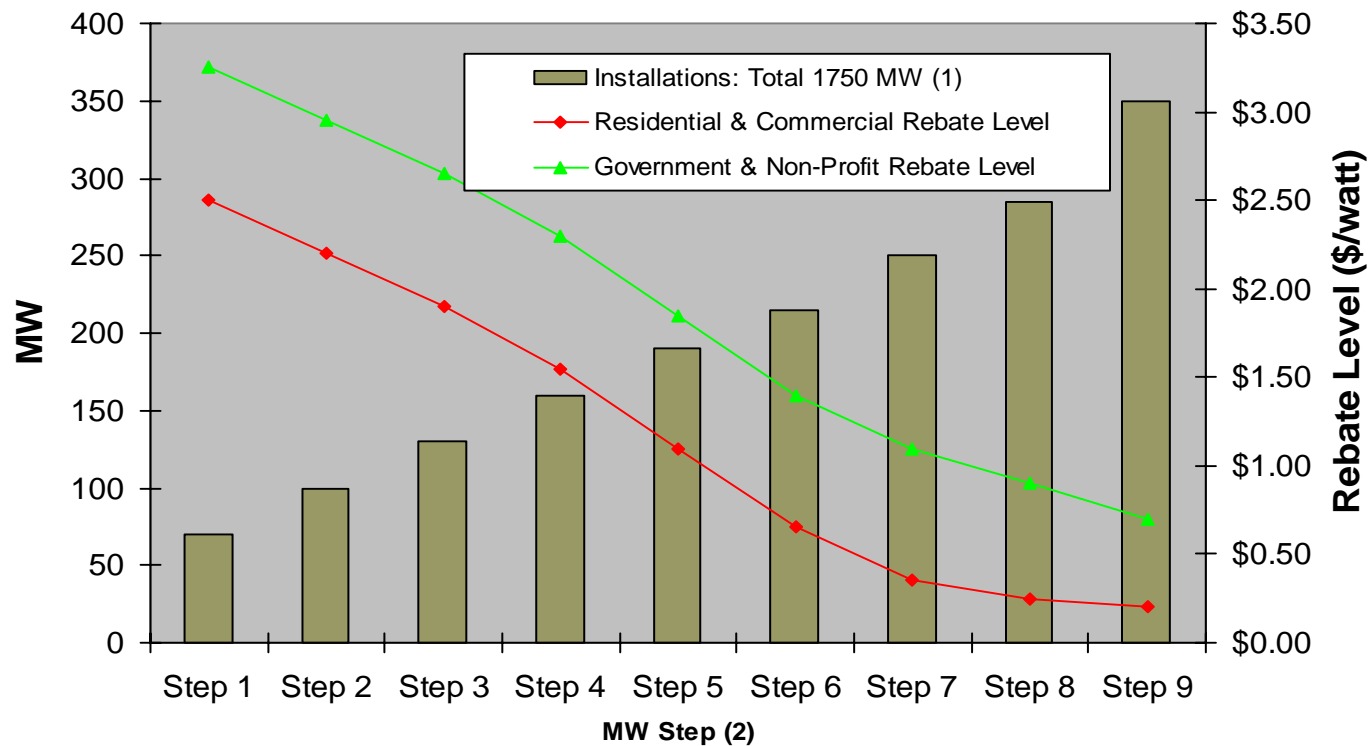
Incentive Levels by MW Step (\$/watt)

Step	MW in Step	Gov't/ Non-Profit	Res	Commercial
1 (2006)	50	\$2.80	\$2.80	\$2.80
2	70	\$3.25	\$2.50	\$2.50
3	100	\$2.95	\$2.20	\$2.20
4	130	\$2.65	\$1.90	\$1.90
5	160	\$2.30	\$1.55	\$1.55
6	190	\$1.85	\$1.10	\$1.10
7	215	\$1.40	\$0.65	\$0.65
8	250	\$1.10	\$0.35	\$0.35
9	285	\$0.90	\$0.25	\$0.25
10	350	\$0.70	\$0.20	\$0.20

- Predictable
- Incentive decline is driven by pace of the market – automatically captures all market factors without disruption to solar markets
- Higher incentive for non-taxable entities



Installations and Rebate Levels – CPUC Portion of CSI



¹The total refers to the MW goal of the program not including the MW that will be installed under the low-income program.

²Rebate reductions are triggered by MW steps, such that the incentive declines once the capacity installed reaches a pre-specified level, rather than on an annual basis.

New Performance-Based Incentive Structure Starting in 2007

Incentive payment tied to performance, not installed capacity

- **Systems > 100 kW: Performance Based Incentive (PBI)**
 - Payment based on metered kWh output
 - Large system owners have access to capital to pay higher first costs
 - Payment based on metered kWh output over 5 years
 - Upside incentive payment for high output

- **Systems < 100 kW: Expected Performance Based Buydown**
 - One-time UP-FRONT payment based on expected system performance
 - Easy transition from current capacity based buy-down
 - $\text{CSI Incentive} = \text{Incentive rate} \times \text{System rating} \times \text{Design factor}$
 - Design factors: Orientation, Tilt, Shading, Geographic Location



Pending CSI Program Development Issues at the CPUC

- ❑ Marketing and Outreach
- ❑ RECs
- ❑ Low Income and Affordable Housing
- ❑ Research, Development, Demonstration, Deployment
- ❑ Cost-Benefit Methodology
- ❑ Monitoring and Evaluation



For Additional Information

- Go Solar California Web site
 - www.gosolarcalifornia.ca.gov
- CPUC Web site
 - www.cpuc.ca.gov/static/energy/solar/index.htm

